The Aboriginal Use of Petrified Wood In Southeastern Ohio

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One interesting discovery, made as a direct result of saving *all* chippage from field surveying as well as excavation work, is that local deposits of petrified or silicified wood were utilized by Early Woodland and probably Late Prehistoric inhabitants of southeastern Ohio. Thus far the evidence is sparse, and it is not likely that the sporadic deposits of petrified wood found in southeastern Ohio were ever major sources of aboriginal lithic material. It is certain, however, at least in the lower section of the Hocking River drainage basin, that silicified wood of Pennsylvanian age was utilized for hammerstones and chipped stone implements.

The discovery was made during the course of analyzing surface chippage from the Late Archaic Children's Home site (33-An-2) at the eastern edge of Athens, Ohio. It has since been destroyed by highway construction. Surface collections were made for several years, whenever conditions permitted, and a sizable accumulation of Late Archaic points and even a few ground stone tools was the result (Shane and Murphy 1967). Although the site had been cultivated for many years, distinct areas of fire-reddened soil and concentrations of fire-cracked rock were apparent. It is particularly regrettable that one of the finest Archaic sites in the Hocking valley was so thoroughly destroyed before even minimal excavation could be performed.

Included in the hundreds of unutilized flakes and spalls saved from the Children's Home site were a few pieces of silicified fossil wood. Some of them were rather blocky and showed no conclusive signs of having served as tools or even as cores; one, however, is definitely a fragment of a small hammerstone for its edges are heavily rounded by peck marks. There are also several thin, lamellar flakes of petrified wood which display a distinct bulb of percussion and secondary flaking. They undoubtedly are debitage from aboriginal chipped-stone tool making. Similar flakes of silicified wood were found at the McCune site, a Feurt Phase Fort Ancient component on the west edge of Athens. This site, too, has been completely destroyed, but fortunately some excavation work was accomplished before it was levelled. There were minor Baum Phase Fort Ancient, Late Woodland, Adena, Archaic, and Paleo-Indian or Plano components at the McCune site, so that exact cultural provenience of the silicified wood cannot be ascertained. In all probability, the few chips of petrified wood found at the McCune site were associated with the Late Prehistoric Feurt Phase.

The only other known artifact made of petrified wood is a small, well-rounded hammerstone found in the fill of Daines mound I, an Adena burial component excavated by Richard Fesker and the author in 1964. Other artifacts from the mound fill include Adena Stemmed blades and points, a siltstone tubular pipe, a hematite celt, and a formal rectangular Adena tablet. Thus, it is definitely known that petrified wood was utilized as a lithic resource during at least Early Woodland times. The evidence also indicates that it was used during the Archaic and, less certainly, during the Late Prehistoric. Although the only artifacts found to date are hammerstones, the existence of thin, lamellar debitage flakes suggests that chipped stone tools may also have been fashioned from this material.

These few occurrences of petrified wood tools and debitage are limited to the central portion of the Hocking River valley, but it is expected that careful collecting and study would reveal the utilization of petrified wood in other sections of southeastern Ohio, too. The potential value of this discovery lies in the fact that deposits of petrified wood are rather localized in occurrence, being limited largely to outcrops of the Conemaugh Group of the Pennsylvania System. All of the known occurrences in the Athens region undoubtedly came from Conemaugh exposures along Coates Run and Rock Riffle Run, north-flowing tributaries of the Hocking River that join the main stream opposite the town of Athens.

Hildreth (1838) long ago noted large slabs of silicified wood along Rock Riffle Run and Shade Creek, further to the south, where the fossil wood has weathered out of Conemaugh age shales and sandstones. Subsequently, the occurrence of petrified wood in Ohio has received little attention. Condit (1912) noted its occurrence along the Middle Branch of Shade River and suggested that the large blocks of petrified wood had weathered out of shales lying a little above the Pittsburgh coal. Condit, as had Hildreth, also noted the common occurrence of silicified wood in the Federal Creek area of eastern Athens County.

Stout (1916) briefly notes that "Silicified wood is very common in the shales of the Conemaugh formation of western Gallia County. Many beautiful specimens may be easily obtained in the area east of Raccoon Creek." Elsewhere (Mitchell 1951) Stout is cited as having seen silicified wood *in situ* "In the 'Big Red' shales in the upper part of the Conemaugh Series northeast of Vinton in Gallia County." Mitchell (1951) conveniently summarizes the sparse data on known occurrences of silicified wood in Ohio, and a copy of his map is included here (Fig. 1).

As Mitchell notes, the wood from the Conemaugh Group is usually very dense and brown or reddish brown in color. Much of it is gray in color, but all of it usually characterized by a peculiar laminated and sometimes whorled or gnarly structure. Color and structure taken together are sufficient to distinguish even small fragments of this fossil rock from chert or flint. The whorled structure is due apparently to the peculiar "mangrove-like" root system of the original wood. According to Dr. Arthur H. Blickle, Department of Botany, Ohio University, the bulk of the Conemaugh silicified wood represents the seed-fern form genus *Psaronius*. Polished sections of the silicified wood often show the root structure beautifully preserved. Even without sectioning and polishing, pieces of the silicified wood are readily recognizable by virtue of their color, waxy luster, and peculiar whorled or laminated structure.

Although aboriginal utilization of silicified wood is thus far known only in the central Athens County region, workers and collectors should anticipate the discovery of its use in other parts of southeastern Ohio and possibly even in adjoining portions of Pennsylvania and West Virginia. It will be particularly interesting to determine whether this unusual lithic material was used throughout the prehistory of the area, as now seems likely, or whether its use was restricted to one or several time periods.

Condit, D. D.
1912 Conemaugh Formation in Ohio. *Geological Survey of Ohio, 4th Series,* Bulletin 17. Columbus.

Hildreth, S. P.
1838 Report. In *First annual report on the geological survey of the state of Ohio* by W. W. Mather, pp. 25-63. Samuel Medary, Columbus.

Mitchell, Robert H.
1951 Petrified wood in Ohio. *Rocks and minerals,* 26: 253-255.

Shane, O. C. III and J. L. Murphy
1967 A survey of the Hocking valley, Ohio. In *Studies in Ohio archaeology,* edited by O. H. Prufer and D. H. McKenzie, pp. 329-356. Western Reserve University Press, Cleveland.

Stout, Wilber
1916 Geology of Southern Ohio. *Geological Survey of Ohio, 4th Series,* Bulletin 20. Columbus.

Fig. 1 (Murphy) Map of Ohio showing generalized distribution of silicified wood. Taken from Mitchell (1951).